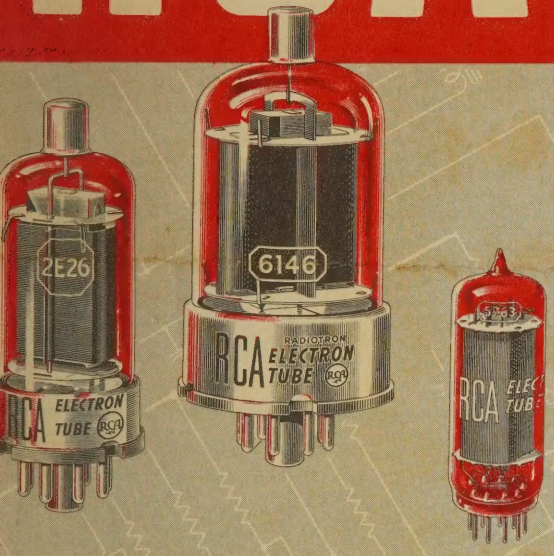
RCA *headliners for hams*



HERE IT IS OM-

Your copy of the latest technical data on RCA's "Headliners for Hams."

- Completely revised, up-to-date data on leading tubes for amateur service.
- Data on new types 6524 and 6417.
- Ham ratings on popular receiving types.
- Operating conditions for Class C amplifier and oscillator, modulator, and frequency-multiplier service.
- Socket connection diagrams.

RCA Power Tube Chart for Amateur Transmitters

CW, FM, AND PHONE TO 30 Mc.

Final Amplifier				Buffer, Doubler, or Oscillator To Drive Final Amplifier				Modulator		
Input Power Watts		Tube Type		Quantity and Tube Types as Shown				Tube Type		
CW & FM	Phone	Qty.	Desig.					Qty.	Desig.	Class of Service
17	15	1	5763	5763	5618	6C4	6AK6	2 1	6AQ5 6N7	AB_1 B
34	30	2	5763	5763	5618	6AG7	6N7	2 2	6F6 6L6	AB_2 AB_1
40	27	1	2E26							
40	27	1	2E24							
50	36	1	832-A							
75	60	2	2E26	2E26	5763	6L6	6AG7	2 2 1 1	6L6 2E26 829-B 6524	AB_2 AB_2 AB_1 AB_2
75	60	1	807							
85	55	1	6524							
90	67.5	1	6146							
150	120	2	807	2E26	5763	6L6	6V6	2 2	807 6146	AB_2 AB_2
180	135	2	6146							
260	175	1	811-A	6146	807	2E26	6L6	2 2	807 6146	B AB_2
260	175	1	812-A							
300	240	1	8005	6146	807		2E26	2 2	811-A 6146	B AB_2
345	270	1	4-65A	807	2E26		6L6	4 2	807 811-A	AB_2 B
500	400	1	813							
500	380	1	4-125A/4D21							
520	350	2	812-A	6146	807		2-2E26	2 2 2	811-A 812-A 8005	B B B
600	480	2	8005							
750	500	1	8000							
1000	675	1	4-250A/5D22	6146	807		2E26	2 2 2	810 813 8000	B AB_1 B
1000	760	2	4-125A/4D21							
1000	800	2	813							
1000	1000	1	833-A	2-6146	2-807		814	4	8005	B
1000	1000	2	8000							

73 Your RCA Tube Distributor

RADIO CORPORATION of AMERICA

TUBE DIVISION HARRISON, N. J.

HAM-1038

CLASS C AMPLIFIERS AND OSCILLATORS

Values shown are for Intermittent Commercial and Amateur Service (ICAS), unless otherwise indicated.
Tube types in italics are receiving types having Class C ratings exclusively for amateur service.

RCA Type	Class of Service	Max. Plate Ratings□			Max. Frequency for Full Input Mc	Cathode		Amplification Factor*	Interelectrode Capacitances (Approx.) μμf			Max. Dimensions Inches		Typical Operating Conditions						
		DC Input Watts	DC Volts	Dissipation Watts		Volts	Amp.		C_{gp}	Cin	Cout	Length	Diam.	DC Plate Volts	DC Grid-No. 3 Volts	DC Grid-No. 2 Volts	DC Grid-No. 1 Volts	DC Plate Current Ma.	Approx. Driving Power Watts	Approx. Power Output Watts
TRIODES																				
6C4	CW	8	350	5	60	6.3	0.15	18	1.6	1.8	1.3	2 1/8	3/4	350	—	—	−100	25	—	5.5
6N7	CW•	10.3	350	5.5	30	6.3	0.8	35	—	—	—	3 1/4	1 5/16	350	—	—	−100	30	—	7.25
811-A	CW Phone	260 175	1500 1250	65 45	30	6.3	4	160	5.6	5.9	0.7	6 21/32	2 7/16	1500 1250	—	—	−70 −120	173 140	7.1 10	200 135
812-A	CW Phone	260 175	1500 1250	65 45	30	6.3	4	29	5.5	5.4	0.77	6 9/16	2 7/16	1500 1250	—	—	−120 −115	173 140	6.5 7.6	190 130
8005	CW Phone	300 240	1500 1250	85 75	60	10	3.25	20	5	6.4	1	6 11/16	2 7/16	1500 1250	—	—	−130 −195	200 190	7.5 9	220 170
8000	CW Phone	750 500	2500 2000	175 125	30	10	4.5	16.5	6.4	5	3.3	8 3/4	2 1/4■	2500 2000	—	—	−240 −370	300 250	18 20	575 380
833-A	CW Phone	1000 1000	3300 3000	350 250	30	10	10	35	6.3	12.3	8.5	8 13/16	4 9/32	3000 3000	—	—	−160 −240	335 335	20 26	800 800
BEAM POWER TUBES AND PENTODES																				
6AK6	CW	5.5	375	3.5	60	6.3	0.15	9.5	0.12	3.6	4.2	2 1/8	3/4	375	—	250	−100	15	—	4
5618	CW	7.5	300	5	100	3 6	0.46 0.23	5.4	0.24	7	5	2 5/8	3/4	300	0	75	−45	25	0.2	5.4
6AG7	CW	10.5	375	9	30	6.3	0.65	22	0.06	13.0	7.5	3 1/4	1 5/16	375	—	250	−75	30	—	7.5
6AQ5	CW	15.7	350	8	60	6.3	0.45	10	0.35	8.3	8.2	2 5/8	3/4	350	—	250	−100	47	—	11
6V6	CW	15.7	350	8	30	6.3	0.45	9	0.3	10.0	11	3 1/4	1 5/16	350	—	250	−100	47	—	11
5673	CW Phone	17 15	350 300	13.5 12	50	6	0.75	16	0.3	9.5	4.5	2 5/8	7/8	350 300	0 0	250 250	−28.5 −42.5	48.5 50	0.1 0.15	12 10
6417	Same as 5763 except for 12.6-volt/0.375-amp. heater.																			
6F6	CW	20	400	12.5	30	6.3	0.7	7	0.26	6.5	13.5	3 1/4	1 5/16	400	—	275	−100	50	—	14
6L6	CW	40	400	21	30	6.3	0.9	8	0.4	10	12	4 5/16	1 5/8	400	—	300	−125	100	—	28
2E24	CW Phone	40 27	600 500	13.5 9	125	6.3	0.65	7.5	0.12	9.5	7	3 21/32	1 5/16	600 500	—	195 180	−50 −45	66 54	0.21 0.16	27 18
2E26	CW Phone	40 27	600 500	13.5 9	125	6.3	0.8	6.5	0.2	12.5	7	3 21/32	1 5/16	600 500	—	185 180	−45 −50	66 54	0.17 0.15	27 18
832-A	CW° Phone°	50 36	750 600	20 15	200	6.3 12.6	1.6 0.8	6.5	0.07	8.0	3.8	3 5/16	2 3/8	750 600	—	200 200	−50 −70	65 60	0.24 0.21	35 26
807	CW Phone	75 60	750 600	30 25	60	6.3	0.9	8	0.2	12	7	5 3/4	2 1/16	750 600	—	250 300	−45 −85	100 100	0.3 0.4	54 44
6524	CW° Phone°	85 55	600 500	25 16.7	100	6.3	1.25	8.5	0.11	7	3.4	3 9/16	1 13/16	600 500	—	200 200	−44 −61	120 100	0.2 0.2	56 40
6146	CW Phone	90 67.5	750 600	25 16.7	60	6.3	1.25	4.5	0.22	13.5	8.5	3 13/16	1 23/32	750 600	—	160 150	−62 −87	120 112	0.2 0.4	70 52
829-B	CW° Phone°	120 90	750 600	40 28	200	6.3 12.6	2.25 1.12	9	0.12	14.5	7	4 5/16	2 3/8	750 600	—	200 200	−50 −60	160 150	0.4 0.5	90 70
4-65A	CW♦ Phone♦	345 275	3000 2500	65 45	50	6	3.5	5	0.08	8.0	2.1	4 3/8	2 3/8	3000 2500	—	250 250	−100 −135	115 110	1.7 2.6	280 230
4-125A/ 4D21	CW♦ Phone♦	500 380	3000 2500	125 85	120	5	6.5	5.9	0.05	10.8	3.1	5 11/16	2 7/8	3000 2500	—	350 350	−150 −210	167 152	2.5 3.3	375 300
813	CW Phone	500 400	2250 2000	125 100	30	10	5	8.5	0.25	16.3	14.0	7 1/2	2 9/16	2250 2000	0 0	400 350	−155 −175	220 200	4 4.3	375 300
4-250A/ 5D22	CW♦ Phone♦	1000 675	4000 3200	250 165	110	5	14.5	5.1	0.12	12.7	4.5	6 3/8	3 9/16	4000 3000	—	500 400	−225 −310	312 225	2.46 3.2	1000 510

□ All ratings, including those shown for receiving-type tubes, are Absolute Maximum Values.
° Values are for both units.
• Values are for each unit.
* For beam power tubes and pentodes the values shown are for mu factor, Grid No. 2 to Grid No. 1.
♦ Values shown are for Continuous Commercial Service (CCS).
■ Maximum Radius.

Note: For types shown in italics —
Plate Modulated Service: Reduce plate voltage 20%; increase Grid-No. 1 voltage as follows: Divide plate volts by amplification factor and multiply by three.
Doubler Service: Increase Grid-No. 1 voltage as follows: Divide plate volts by amplification factor and multiply by three.

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MODULATORS OR RF LINEAR AMPLIFIERS (Single-Sideband)

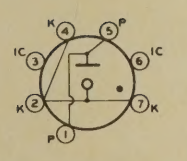
Values shown are for Intermittent Commercial and Amateur Service (ICAS), unless otherwise indicated.
Tube types in italics are receiving types useful in amateur transmitters.

Type	Class of Service	Max. Plate Ratings†			Typical Operating Conditions (Two Tubes, Except Where Shown)								
		DC Volts	DC Input Watts	Dissipation Watts	DC Plate Volts	DC Grid-No. 2 Volts	DC Grid-No. 1 Volts	Peak AF Grid-No. 1 to Grid-No. 1 Volts	Zero-Signal DC Plate Current Ma.	Max.-Signal DC Plate Current Ma.	Plate-to-Plate Load Ohms	Approx. Max.-Sig. Driving Power Watts	Approx. Max.-Sig. Power Output Watts
6AQ5	AB_1	250	—	12	250	250	−15	30	70	79	10000	—	10
6N7	B°	300	—	11	300	—	0	82	35	70	8000	—	10
6V6	AB_1	315	—	12	285	285	−19	38	70	92	8000	—	14
6L6	AB_1 AB_2	360	—	19	360 360	270 270	−22.5 −22.5	45 72	88 88	132 205	6600 3800	— —	26.5 47
829-B	AB_1°♦	750	100	30	600	200	−18	36	40	110	13750	0	44
2E24	AB_2	500	37.5	13.5	500	125	−15	82	20	150	9000	0.46	54
2E26	AB_2	500	37.5	12.5	500	125	−15	60	22	150	8000	0.36	54
6524	AB_2°	600	85	25	600	200	−26	76	21	135	11400	0.1	57
807	AB_2 B△	750 750	90 90	30 30	750 750	300 0	−35 0	96 555	30 15	240 240	7300 6650	0.2 5.3	120 120
6146	AB_2	750	90	25	750	165	−46	108	22	240	7400	0.04	131
811-A	B	1500	235	65	1500	—	−4.5	170	32	313	12400	4.4	340
813	AB_1*	2500	450	125	2500	750	−95	180	50	290	19000	0	490
810	B	2750	510	175	2250	—	−60	380	70	450	11600	13	725

* Grid No. 3 connected to filament center-tap.
† All ratings are Absolute Maximum values except for types in italics for which Design-Center values are given.
♦ Values shown are for Continuous Commercial Service (CCS).
△ Audio driving signal fed to Grid No. 2. Grid No. 1 tied to Grid No. 2 through 20,000-ohm, 2-watt resistor.
° Values are for both units.

BOTTOM VIEWS OF SOCKET CONNECTIONS

BC = Base Sleeve
DJ = Deflecting Electrode
F = Filament
F_M = Filament Mid-Tap
G = Grid
H = Heater
H_M = Heater Mid-Tap
IC = Internal Connection—Do not Use
IS = Internal Shield
K = Cathode
NC = No Connection
● = Gas-Type Tube
P = Plate (Anode)
S = Shell
SJ = Signal Electrode
U = Unit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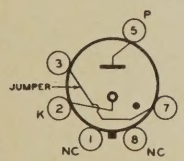
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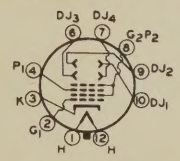
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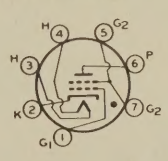
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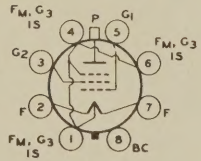
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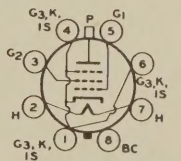
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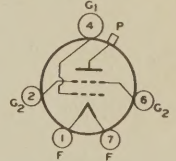
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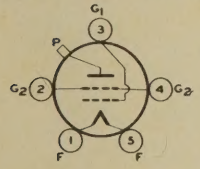
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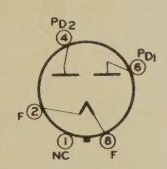
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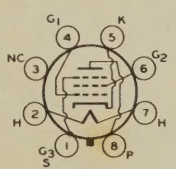
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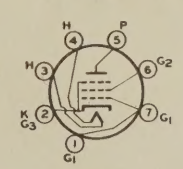
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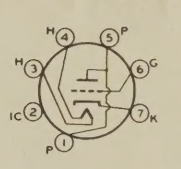
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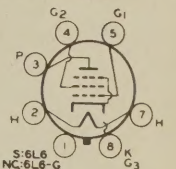
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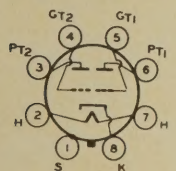
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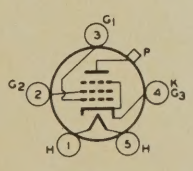
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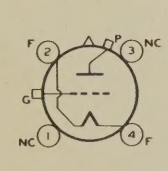
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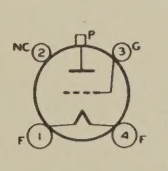
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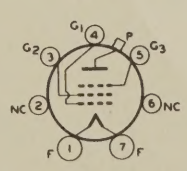
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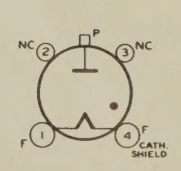
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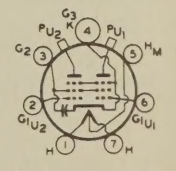
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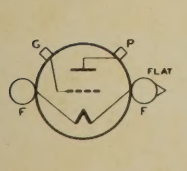
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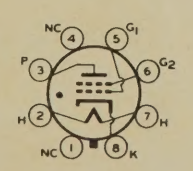
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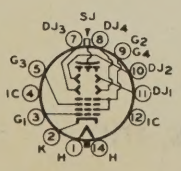
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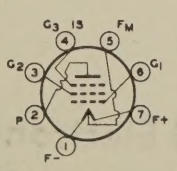
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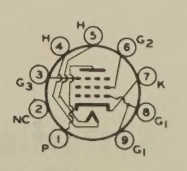
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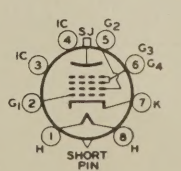
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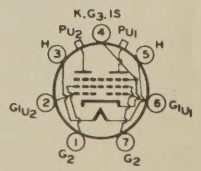
6524

FREQUENCY MULTIPLIERS

Values shown are for Intermittent Commercial and Amateur Service (ICAS), unless otherwise indicated.

RCA Type	Multiplier Service	Max. Plate Ratings			Max. DC Grid-No. 1 Volts	Max. DC Grid-No. 1 Current Ma.	Typical Operation								
							Plate		Grid No. 2		Grid No. 1			Approx. Driving Power Watts	Approx. Power Output Watts
		DC Volts	DC Current Ma.	Dissipation Watts			DC Volts	DC Current Ma.	DC Volts	DC Current Ma.	DC Volts	DC Current Ma.	Peak RF Volts		
2E26	Doubler to 15 Mc	600	85	13.5	−175	3.5	600	55	185	11	−75	3	92	0.23	20
807	Doubler to 15 Mc	750	100	30	−200	5	750	90	250	5.5	−90	5	110	0.45	40
5618	Doubler to 80 Mc	300	30	5	−125	3	300	25	75	5.5	−125	1.85	160	0.75	4.2
	Tripler to 80 Mc	300	30	5	−125	3	300	25	75	5.5	−125	1.85	160	0.75	3.4
5763	Doubler to 175 Mc♦	300	50	12	−125	5	300	40	250	4	−75	1	95	0.6	3.6
	Tripler to 175 Mc♦	300	50	12	−125	5	300	35	237.5	5	−100	1	120	0.6	2.8
6417	Same as 5763 except for 12.6-volt/0.375-amp. heater														
6146	Doubler to 60 Mc	750	130	25	−150	4	750	90	150	7	−138	3	158	0.45	45
6524	Tripler to 462 Mc	400	115	25	−200	4	300	110	250	6.5	−148	2.9	—	4	8.5

♦ Values shown are for Continuous Commercial Service (CCS).

RECTIFIERS, THYRATRONS

RCA Type	Cathode		Max. Dimensions Inches		Max. Plate or Anode Ratings		
	Volts	Amp.	Length	Diam.	Peak Inverse Volts	Peak Amperes	Average Amperes
RECTIFIERS							
5R4-GY	5	2	5 5/16	2 1/16	2800†	0.65†°	0.175†
816	2.5	2	4 11/16	1 9/16	7500	0.5	0.125
866-A	2.5	5	6 9/16	2 7/16	10000 2000	1 2	0.25 0.5
THYRATRONS							
2D21	6.3	0.6	2 1/8	3/4	1300▲	0.5*	0.1*
2050	6.3	0.6	4 1/8	1 9/16	1300▲	1*	0.1*
5696	6.3	0.15	1 3/4	3/4	500▲	0.1*	0.025*

† Design-Center Values. ° Per Plate. * Cathode Current.

GLOW-DISCHARGE TUBES

RCA Type	Max. Dimensions Inches		Approx. DC Starting Volts	Operating Conditions			
	Length	Diam.		Min. DC Anode—Supply Volts	Approx. DC Operating Volts	Regulation for Specified Current Range	
						Ma.	Volts
VOLTAGE-REGULATOR TYPES							
OA2	2 5/8	3/4	156	185	151	5 to 30	2
OA3	4 1/8	1 9/16	100	105	75	5 to 40	5
OB2	2 5/8	3/4	115	133	108	5 to 30	1
OC3	4 1/8	1 9/16	115	133	108	5 to 40	2
OD3	4 1/8	1 9/16	160	185	153	5 to 40	4
VOLTAGE-REFERENCE TYPES							
5651	2 1/8	3/4	107	115	87	1.5 to 3.5	3

▲ Max. Peak Forward Anode Volts for 2D21 & 2050 is 650 volts; for 5696, 500 volts.

CATHODE-RAY TUBES

OSCILLOGRAPH TYPES

RCA Type	Heater Rating		Max. Overall Length	Min. Useful Screen Diam.	Max. Final Anode	Deflection Factor Volts DC/In.	
	Volts	Amp.	Inches	Inches	Volts	DJ_1 & DJ_2†	DJ_3 & DJ_4‡
Electrostatic Focus & Deflection Types							
2BP1	6.3	0.6	7 13/16	1 3/4	2500	230 to 310	148 to 200
3RP1	6.3	0.6	9 3/8	2 3/4	2500	146 to 198	104 to 140
5UP1	6.3	0.6	15 1/8	4 1/2	2500	56 to 77	46 to 62

† Deflecting electrodes nearer base ‡ Deflecting electrodes nearer screen

CAMERA TYPES

RCA Type	Heater Rating		Max. Image or Pattern Size	Max. High-Voltage Supply	Resolution Capability
	Volts	Amp.	Inches	Volts	Lines
5527	6.3	0.6	Image Size 1.4 Diagonal Electrostatic Focus and Deflection	900	250
6198	6.3	0.6	Image Size 0.62 Diagonal Magnetic Focus and Deflection	350	600

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